

WHAT IS CLAIMED IS

1. A syringe comprising:

a barrel having a fluid chamber, a proximal end, a distal end and an elongated tip extending from said distal end having a passageway therethrough in fluid communication with said chamber, a collar surrounding said tip, and at least one deflectable locking tab projecting radially inwardly from said collar

a needle assembly including a cannula having a proximal end, a distal end and a lumen therethrough, a hub having an open proximal end with a cavity therein, and a distal end joined to said proximal end of said cannula so that said lumen is in fluid communication with said cavity, an outside surface of said hub, said needle assembly being connected to said barrel so that said elongated tip of said barrel is in said cavity of said hub and said outside surface on said hub is adjacent to said locking tab so that said locking tab prevents removal of said needle assembly from said barrel through contact between said locking tab and said outside surface of said hub, said locking tab being configured to allow assembly of the needle assembly to said barrel through axial motion of the hub toward the barrel; and

a plunger including an elongated plunger rod having a longitudinal axis, a proximal portion and a distal portion connected by a breakable connection, said distal portion including a stopper slidably positioned in fluid-tight engagement with an inside surface of said chamber for drawing fluid into and out of said chamber by movement of said plunger relative to said barrel, said breakable connection being strong enough to hold said proximal portion and said distal portion together during normal use of said syringe and breakable upon application of an additional force to said proximal portion.

2. The syringe of claim 1 wherein one of said proximal portion and said distal portion includes an axial projection having a plurality of transverse protuberances projecting therefrom, said protuberances being connected to the other of said proximal portion and said distal portion, said breakable connection being on said protuberances.

3. The syringe of claim 1 wherein the at least one deflectable locking tab comprises a plurality of locking tabs.

4. The syringe of claim 3 wherein the tabs are cantilevered members extending radially inward and proximally from the collar.

5. The syringe of claim 1 further comprising means on the hub between the distal end and the proximal end of the hub for allowing the hub to break upon application of bending force to the hub.

6. A syringe comprising:

a barrel having a fluid chamber, a proximal end, a distal end and an elongated tip extending from said distal end having a passageway therethrough in fluid communication with said chamber, a collar surrounding said tip, and at least one deflectable locking tab projecting radially inwardly from said collar

a needle assembly including a cannula having a proximal end, a distal end and a lumen therethrough, a hub having an open proximal end with a cavity therein, and a distal end joined to said proximal end of said cannula so that said lumen is in fluid communication with said cavity, an outside surface of said hub, a fracturable section between said proximal end and said distal end of said hub for allowing said hub to break upon application of a bending force to said hub, said needle assembly being connected to said barrel so that said elongated tip of said barrel is in said cavity of said hub and said outside surface on said hub is adjacent to said locking tab so that said locking tab prevents removal of said needle assembly from said barrel through contact between said locking tab with said outside surface of said hub, said locking tab being configured to allow assembly of the need assembly to said barrel through axial motion of the hub toward the barrel; and

a plunger including an elongated plunger rod having a longitudinal axis, a proximal portion and a distal portion connected by a breakable connection, said distal portion including a

stopper slidably positioned in fluid-tight engagement with an inside surface of said chamber for drawing fluid into and out of said chamber by movement of said plunger relative to said barrel, said breakable connection being strong enough to hold said proximal portion and said distal portion together during normal use of said syringe and breakable upon application of an additional force to said proximal portion so that said proximal portion can be removed from said syringe barrel and said distal portion remains in said barrel.

7. The syringe of claim 6 wherein the at least one deflectable locking tab comprises a plurality of locking tabs and wherein the tabs are cantilevered members extending radially inward and proximally from the collar.

8. The syringe of claim 7 wherein one of said proximal portion and said distal portion includes an axial projection having a plurality of transverse protuberances projecting therefrom, said protuberances being connected to the other of said proximal portion and said distal portion, said breakable connection being on said protuberances.

9. A syringe comprising:

a barrel having a fluid chamber, a proximal end, a distal end and an elongated tip extending from said distal end having a passageway therethrough in fluid communication with said chamber, and a collar surrounding said tip;

a needle assembly including a cannula having a proximal end, a distal end and a lumen therethrough, a hub having an open proximal end with a cavity therein, and a distal end joined to said proximal end of said cannula so that said lumen is in fluid communication with said cavity, an outside surface of said hub, said needle assembly being connected to said barrel so that said elongated tip of said barrel is in said cavity of said hub and means for preventing removal of said needle assembly from said barrel; and

a plunger including an elongated plunger rod having a longitudinal axis, a proximal portion and a distal portion connected by a breakable connection, said distal portion including a stopper slidably positioned in fluid-tight engagement with an inside surface of said chamber for

drawing fluid into and out of said chamber by movement of said plunger relative to said barrel by exertion of an operation force to the proximal portion of the plunger, said connection being adapted to hold said proximal portion and said distal portion together during operation of the syringe until the stopper is disposed near the distal end of the barrel, and means for allowing said connection to break by application of breaking force to said proximal portion of the plunger while the stopper is disposed near the distal end of the barrel, wherein the breaking force is greater than the operation force.

10. The syringe of claim 9 wherein the means for allowing the connection to break includes a plurality of transverse protuberances projecting from one of said proximal portion and said distal portion, said protuberances being connected to the other of said proximal portion and said distal portion.

11. The syringe of claim 9 wherein the means for preventing removal of said needle assembly from said barrel includes a plurality of cantilevered members extending radially inward and proximally from the collar.

12. The syringe of claim 9 further comprising means on the hub between the distal end and the proximal end of the hub for allowing the hub to break upon application of bending force to the hub.